

**DECLARATION OF
CHRISTOPHER THOMPSON**

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1 Mark C. Mao, CA Bar No. 236165
2 Beko Reblitz-Richardson, CA Bar No. 238027
3 Erika Nyborg-Burch, CA Bar No. 342125
4 **BOIES SCHILLER FLEXNER LLP**
5 44 Montgomery St., 41st Floor
6 San Francisco, CA 94104
7 Tel.: (415) 293-6800
8 mmao@bsflp.com
9 brichardson@bsflp.com
10 enyborg-burch@bsflp.com

11 James Lee (admitted *pro hac vice*)
12 Rossana Baeza (admitted *pro hac vice*)
13 **BOIES SCHILLER FLEXNER LLP**
14 100 SE 2nd St., 28th Floor
15 Miami, FL 33131
16 Tel.: (305) 539-8400
jlee@bsflp.com
rbaeza@bsflp.com

17 Amanda K. Bonn, CA Bar No. 270891
18 **SUSMAN GODFREY L.L.P**
19 1900 Avenue of the Stars, Suite 1400
20 Los Angeles, CA 90067
21 Tel: (310) 789-3100
22 Fax: (310) 789-3150
23 abonn@susmangodfrey.com

24 *Attorneys for Plaintiffs*

25 **UNITED STATES DISTRICT COURT**
26 **NORTHERN DISTRICT OF CALIFORNIA**

27 CHASOM BROWN, WILLIAM BYATT,
28 JEREMY DAVIS, CHRISTOPHER
CASTILLO, and MONIQUE TRUJILLO
individually and on behalf of all similarly
situated,

Plaintiffs,

vs.

GOOGLE LLC,

Defendant.

William Christopher Carmody
(admitted *pro hac vice*)
Shawn J. Rabin (admitted *pro hac vice*)
Steven M. Shepard (admitted *pro hac vice*)
Alexander Frawley (admitted *pro hac vice*)
SUSMAN GODFREY L.L.P.
1301 Avenue of the Americas,
32nd Floor
New York, NY 10019
Tel.: (212) 336-8330
bcarmody@susmangodfrey.com
srabin@susmangodfrey.com
sshepard@susmangodfrey.com
afrawley@susmangodfrey.com

John A. Yanchunis (admitted *pro hac vice*)
Ryan J. McGee (admitted *pro hac vice*)
MORGAN & MORGAN
201 N. Franklin Street, 7th Floor
Tampa, FL 33602
Tel.: (813) 223-5505
jyanchunis@forthepeople.com
mram@forthepeople.com
rmcgee@forthepeople.com

Michael F. Ram, CA Bar No. 104805
MORGAN & MORGAN
711 Van Ness Ave, Suite 500
San Francisco, CA 94102
Tel: (415) 358-6913
mram@forthepeople.com

Case No.: 4:20-cv-03664-YGR-SVK

DECLARATION OF CHRISTOPHER THOMPSON IN SUPPORT OF PLAINTIFFS' RESPONSE TO GOOGLE'S OBJECTIONS TO THE SPECIAL MASTER'S RECOMMENDED PRESERVATION PLAN

Referral: The Honorable Susan van Keulen

DECLARATION OF CHRISTOPHER THOMPSON

I, Christopher Thompson, declare as follows.

3 1. Counsel for the *Brown* Plaintiffs retained me to provide technical analysis and
4 testimony in connection with the preservation plan recommended by Special Master Brush and the
5 parties' objections to that plan.

6 2. All of the statements in this declaration are true based on my analysis and personal
7 knowledge, and I am available and willing to testify at the scheduled May 3, 2021 hearing.

8 3. A copy of my CV was previously filed at Dkt. 536-9. As reflected in my CV, I
9 majored in Computer Engineering and have many years of experience in computing technology. I
10 am being compensated at a rate of \$275 per hour for my work in connection with this matter, and
11 none of my compensation is contingent on the outcome of this litigation.

12 4. I have reviewed each and every submission that Google and the Special Master
13 made available as part of the Special Master process, including the Plaintiffs' data, test data,
14 schema produced by Google, and the transcripts of the hearings before the Special Master. In
15 addition, all documents Google produced and deposition transcripts for witnesses in this case have
16 been made available to me pursuant to the Protective Order.

17 5. I understand that Google has suggested within its Objections to the Special Master's
18 preservation order (Dkt. 544) that Google will only preserve aggregated dashboard data from the
19 [REDACTED] logs that contain the is_chrome_incognito and is_chrome_non_incognito detection
20 bits.

21 6. To be clear, I am referring to the following [REDACTED] longs, organized below by
22 which incognito-detection bit is present within which log.

- is chrome non incognito

1.

For more information, contact the Office of the Vice President for Research and Economic Development at 319-273-2500 or research@uiowa.edu.

For more information, contact the Office of the Vice President for Research and the Office of the Vice President for Student Affairs.

- is chrome incognito

1 4. [REDACTED]
2 [REDACTED]3 Dkt. 511-3, Ex. 2 to Supplemental Declaration of Mark Mao in Support of Plaintiffs' Sanctions
4 Motion.5 7. Plaintiffs asked me to submit this declaration in support of their argument that
6 Google should be required to preserve event-level data from these [REDACTED] logs.7 8. As the Court is aware, on April 1, 2022, Google produced a proto comment for the
8 is_chrome_incognito bit, which confirms that the field "Represents if an entry comes from a
9 Chrome web browser in the incognito mode." Dkt. 536-2, Plaintiffs' Sanctions Reply Ex. 1.10 9. On April 22, 2022—the day after the April 21, 2022 evidentiary hearing on
11 Plaintiffs' sanctions motion, Google through the Special Master process produced data associated
12 with [REDACTED] events. I worked with Dr. Lillian Dai, another of Plaintiffs' consultants, to review
13 this data.14 10. This April 22 production marked the first time that Plaintiffs received any data from
15 any of the [REDACTED] logs. The data that Google produced on April 22 came from one of the
16 [REDACTED] logs that contain the is_chrome_incognito bit, namely, [REDACTED]. Google
17 provided the search script, but Google appears to have omitted [REDACTED] of the other [REDACTED] logs. I
18 understand Plaintiffs are addressing this issue through the Special Master process.19 11. From my analysis of this data, I have determined that (A) the is_chrome_incognito
20 bit detected Incognito browsing data for this April 22 production with 100% accuracy, (B) signed-
21 out, Incognito browsing data from this production (which consists of Google Search queries) can
22 be correlated with signed-out, Incognito browsing data on non-Google websites from other Google
23 productions, and (C) signed-out, Incognito browsing data from this production can be correlated
24 with GAIA-keyed browsing data from other Google productions. It is also my opinion that (D)
25 Google has not demonstrated that its proposal to preserve only [REDACTED] dashboard data would be
26 sufficient for purposes identifying class members. Plaintiffs still do not have any documentation
27 from Google regarding the [REDACTED] logs.

1 *A) The is_chrome_incognito Bit Accurately Detected Incognito Traffic*

2 12. The data that Google produced on April 22 was associated with a set of Zwieback
 3 IDs. These Zwieback IDs are associated with Zwieback cookies submitted as a part of the Second
 4 Iterative Search in the Special Master process. The Zwieback cookie to ID mappings were
 5 produced by Google.¹

6 13. To analyze the data and determine whether the is_chrome_incognito bit accurately
 7 detected Incognito traffic, I referenced data captures recorded at the time of the actual browsing
 8 sessions, which contain the Zwieback cookies. These data captures have already been provided to
 9 Google as Exhibit F of the April 15, 2022 Expert Report of Jonathan Hochman. Referencing those
 10 data captures, and using the Zwieback cookie to ID mappings provided by Google, I determined
 11 that for all 11 events produced on April 22, the “is_chrome_incognito” bit accurately detected
 12 whether the browsing session was Incognito.

13 *B) Incognito Search Data from the April 22 Production Can be Correlated with Previously
 14 Produced Signed-out Incognito Browsing Data on Non-Google Websites*

15 14. Google’s April 22 production was limited to the time period April 13, 2022, through
 16 April 19, 2022. Google did not produce any GAIA (signed-in) or Biscotti (signed-out, Display ads
 17 data) for the same time period.

18 15. In any event, as one example, I was able to locate a combination of IP address and
 19 user agent information in the [REDACTED] data produced on April 22 and correlate that signed-out,
 20 Incognito data with previously produced, signed-out Incognito browsing data from visits to non-
 21 Google websites.

22 16. The [REDACTED] data produced on April 22 contained the same combination of IP
 23 address and user agent discussed in my declaration filed with Plaintiffs’ Reply in support of their
 24 Sanctions Motion (Dkt. 536-8). That combination was also found in many signed-out Biscotti logs.
 25 Dkt. 536-8 ¶¶ 10-12. Furthermore, the “maybe_chrome_incognito” bit² identifies the
 26 corresponding Biscotti ID as from Incognito mode. *Id.*

27 ¹ 2022-03-04 Brown v. Google - Second Iterative Searches - Decrypted NIDs.xlsx

28 ² 2022-03-04 Brown v. Google - Live [REDACTED] Queries.xlsx

C) Incognito Search Data from the April 22 Production Can be Correlated with Previously Produced Signed-in (GAIA-Keyed) Browsing Activity

17. I also performed a similar analysis to correlate the [REDACTED] data produced on April 22 with signed-in (GAIA-keyed) browsing data. The same combination of IP address and user agent values discussed above can be found in a GAIA log produced during the First Iterative Search for the Special Master process: [REDACTED]

,” which is associated with consultant Dr. Dai’s GAIA account. Dkt. 536-8 ¶¶ 10-12.

18. The upshot is as follows: Google's April 22 production suggests that the is_chrome_incognito bit accurately detects Incognito browsing data reflecting Google searches, and this data can be correlated with previously produced data from visits to non-Google websites within Incognito mode, as well as GAIA-keyed data.

D) **Dashboard Data Is Insufficient**

19. If Google preserves data from the [REDACTED] logs for all class members, as well as Biscotti and GAIA data, the process I lay out above could be repeated for any class members.

20. But if Google's proposal to preserve only aggregated dashboard data from the [REDACTED] logs were adopted, then one may not be able to repeat the above analysis for other class members' data.

21. Google has not demonstrated that Dashboard data can be used to identify individual class members or specific events. At best, in terms of what Google has presented thus far, dashboard data may provide aggregated statistics, such as the portion of traffic over a given time for which `is_chrome_incognito` was equal to “true.” But that aggregated data would not help Plaintiffs detect particular instances of event-level Incognito browsing activity, which would in turn prevent Plaintiffs from attempting to link any such browsing data to class members’ GAIA accounts.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed this 25th day of April, 2022 at Nolensville, Tennessee

/s/ Christopher Thompson